Biological Sciences – Terrestrial

Snowshoe Hare Response to Pre-commercial Thinning in Northwest Montana[TWS]

David E. Ausband
Wildlife Biology Program
University of Montana
Health Sciences 203, Missoula, MT 59812

G. Ross Baty
Montana Department of Natural Resources and Conservation
2705 Spurgin Rd., Missoula, MT 59801

We assessed snowshoe hare (*Lepus americanus*) response to 2 distinct pre-commercial thinning treatments on a state forest in northwest Montana. One treatment retained five 0.2-ha patches of unthinned saplings totaling 8 percent of the sapling stand area, and the second retained five 0.8-ha patches totaling 35 percent of the sapling stand area. Hare use was also estimated within nearby mature conifer stands and a control sapling stand. We used snow tracking and fecal pellet density to estimate hare use before and after thinning treatments were applied. Hare use of sapling stands generally declined after thinning. However, results suggest that dense sapling patches retained at the 35 percent retention level may have provided habitat conditions similar enough to the unthinned control stand to not appreciably influence their use under the conditions we observed. Hares used retention patches regardless of size, even though large retention patches were four times larger than small retention patches. Because hares demonstrated a significant affinity for dense patches of residual forest any retention of untreated sapling patches may be beneficial for hares when applying pre-commercial thinning treatments. Use within a mature forest stand declined after thinning treatments were applied to 2 adjacent sapling stands suggesting that pre-commercial thinning may have broader effects than those directly associated with treated sapling stands. Results from the control stand and an adjacent mature stand suggest that during winter hares may benefit from maintaining a mosaic of suitable habitat patches within close proximity or connected to one another when applying pre-commercial thinning treatments.